BGA IRDA-WELDER T-835

User Manual

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CONTENT

1. Features

1. Use of hand-held lamp structure with flexible operation and easy control. The T-835 is suitable for any points of a flat component, especially BGA and SMD components.

2. Use of infrared heat lamp. Heat is easy to pierce and distribute evenly, which overcome disadvantages (burn out elements) of traditional welder machines.

3. Infrared heating doesn't use hot air flow, therefore no impact on circumjacent small elements. It is suitable for all of the elements. It can be used to unsolder BGA, SMD, CSP, LGA, QFP and PLCC, especially Micro BGA and SMD elements. T835 works together with infrared preheated T-8120, which can repair all kinds of needle-socket (such as CPU socket and inserted row GAP).

4. Easy operation. You just need 1 day training and you can operation it skillfully. No need for any welding tools. This machine can solder all the flat components.

5. The T-835 will satisfy soldering/unsoldering of phones, computers, notebooks, Game machines, etc.

2. Technical parameters

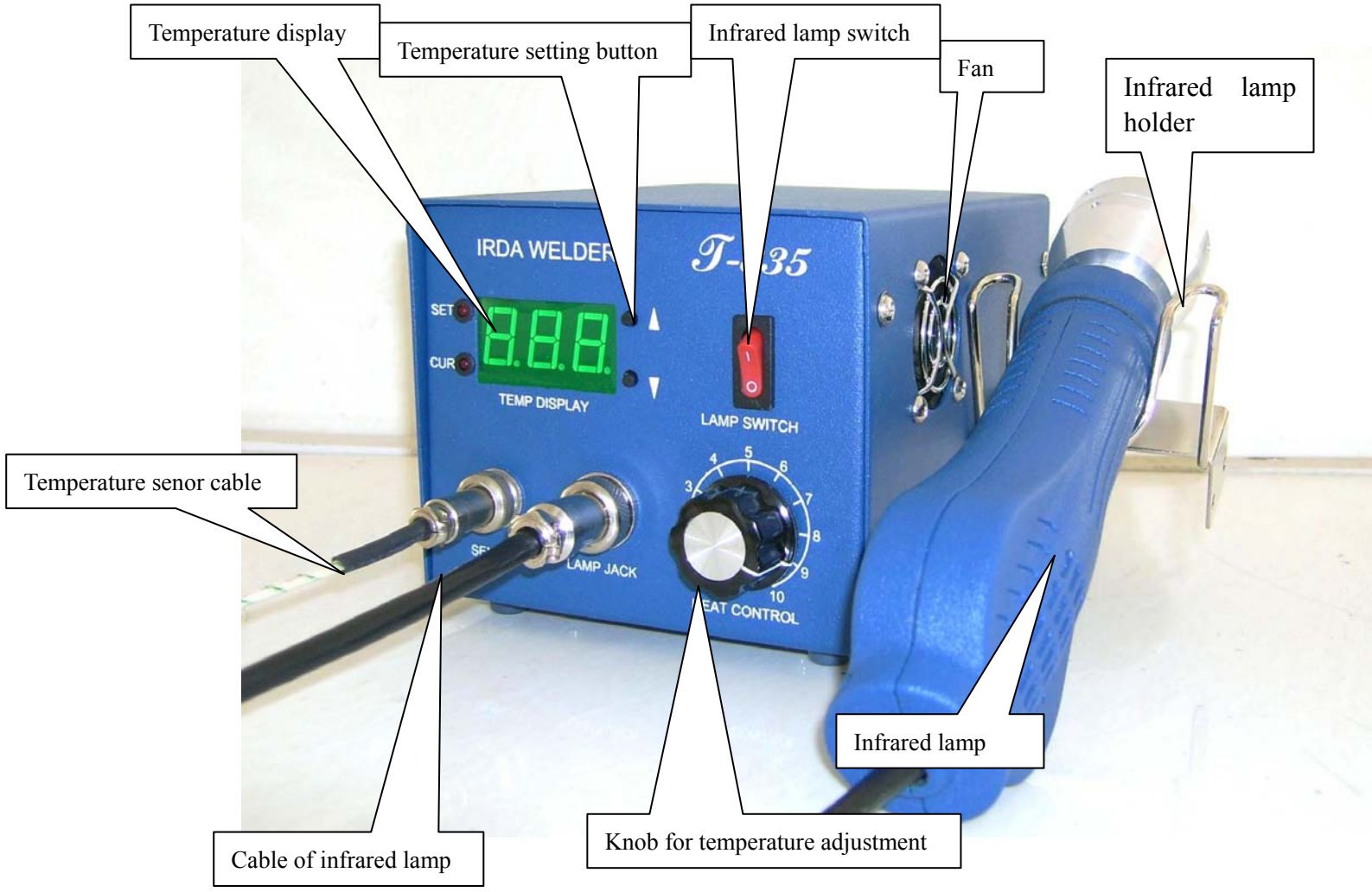
Rated voltage and frequency	AC220v/AC110v/50-60Hz
Complete machine power	300W
Infrared lamp power	100W
Infrared lamp heating size	Φ35mm
Adjustable temperature of Infra-red lamp	0℃-350℃

3. Main parts

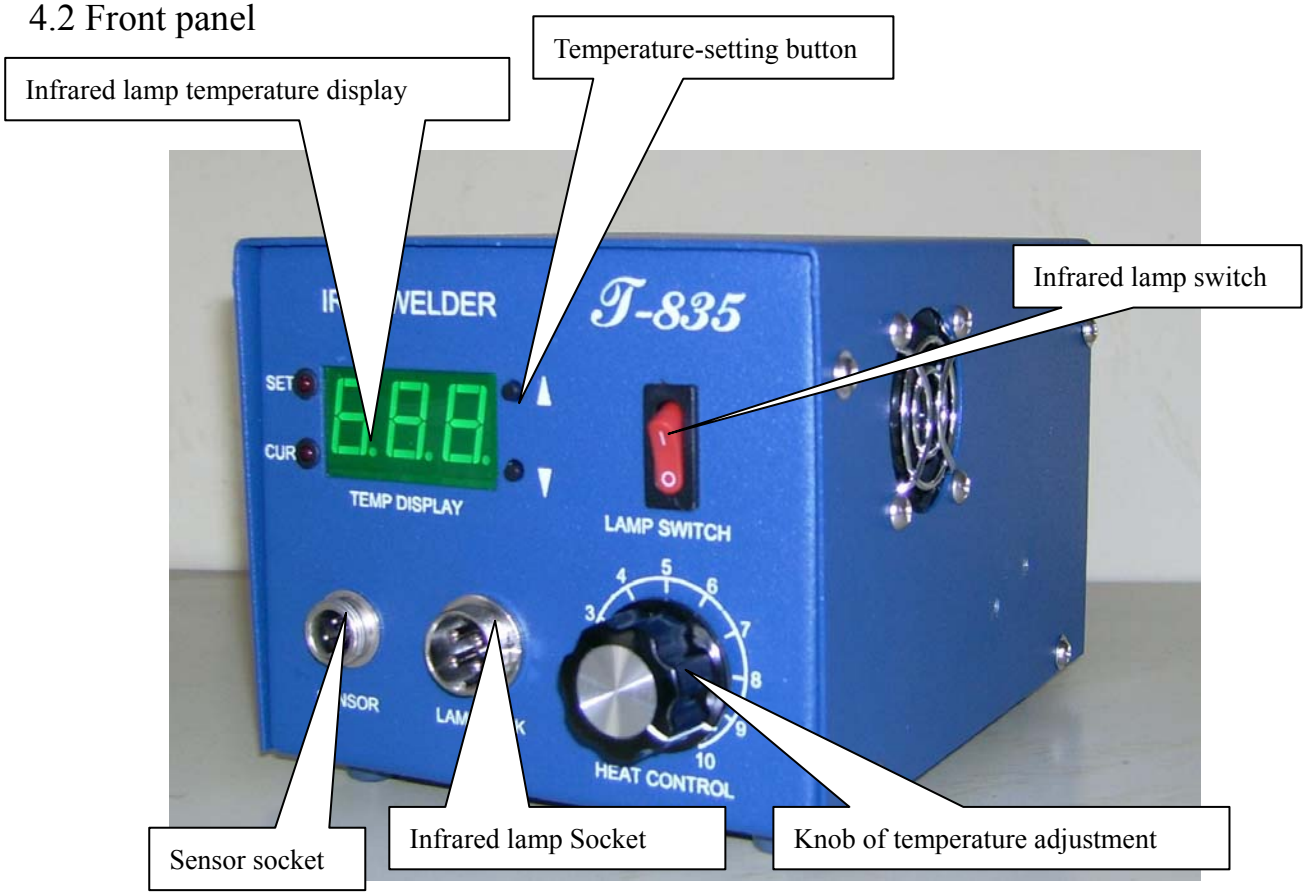
Name	Model	Quantity
Welding table	T-835	1
Infrared lamp		1
Temperature sensor	K-degree	1
Infrared lamp holder		1
Power cable	0.75x1.8m	1
User manual（compact disc）		1

4. Functions of the main parts

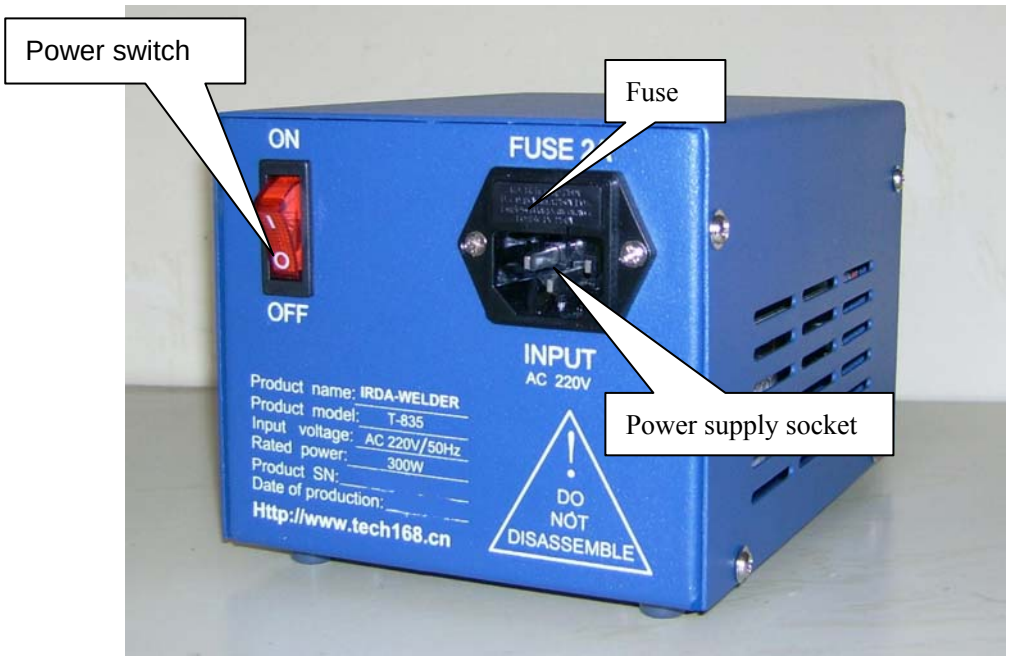
4.1. Main body



4.2 Front panel



4.3. Back panel



5. Installation steps

5.1. Installation of sensor and connection of infrared lamp cable

①. Insert temperature sensor plug into corresponding socket.

②. Insert infrared lamp cable into corresponding socket.

③. Rotate the screw clockwise to fix.

5.2. Installation of infrared lamp holder

Use a M3*8 screw to fix the infrared lamp holder to the main body as shown in the picture.

6. Operation method

6.1. Starting and inspections before starting

□. Check if the cables of the infrared lamp, the temperature sensor and the power supply are connected well before starting.

②. Turn on the power switch. The machine will perform a self-check; wait until this is finished (the temperature displayed after the self-check will be the current room temperature).

③. The switches on the front panel are used to control the work process of the infrared lamp. Press the front panel **"▲"** and **"▼"** buttons to adjust the temperature of the infrared lamp between 0-350℃. Press the **"ON"** switch to let the infrared lamp

work; press the **“OFF”** switch to switch off the lamp.

6.2. Sealing off/repair operation:

6.2.1 Placing of the PCB board

Place the PCB board in an appropriate, even working position.

6.2.2 Adjustment and preparatory work before the sealing off/repair operation

①.According to the chip size and the welding technological requirement, select the appropriate temperature for the infrared lamp（between 0-350℃ adjustable）. When sealing off chips smaller than 15x15mm, you may adjust the infrared lamp temperature to about 160-240℃. When the sealing off/repair area is smaller than the 20x20mm, you may adjust the infrared lamp temperature to about 220-240℃. For bigger operation, like a 30x30mm chip, you may adjust the infrared lamp temperature to about 240-260℃, depending on your craft and experience.

The adjustment of the temperature is step less, which means you can adjust it freely according to the chip size. When using very high temperatures for heating up large chips, please pay special attention to the temperature control, to prevent displacement or burning out of the chip.

②. Place the temperature sensor on the chip or in a suitable location very close to the chip. Spread some flux (welding or welding-oil) on the temperature sensor, this will enable the senor to measure the temperature more accurately, while helping the solder flux to run. The BGA pad will be more intact and can effectively prevent the pads from sticking and tin from being affected by hair and other issues.

6.3. Soldering / unsoldering operation:

6.3.1. Fix the PCB board

Put the PCB board to suitable place and position.

6.3.2. Preparation and adjustment before soldering/unsoldering

① Adjust infrared lamp temperature between 0-350℃ according to Chip's size and the requirements of welding technology. Set temperature between 160-240℃ to unsolder chips of under 15x15mm size; between 220-240℃ to unsolder chips under 20x20mm; adjust the temperature between 240-260℃ to unsolder chips over 30x30mm.

This machine uses a step less method to regulate temperature. When you regulate the infrared lamp to maximum power, it releases the highest temperature to make chip's temperature rise fastest. In the process of welding, please pay attention to the temperature control sensor to avoid burning chips due to the high temperatures.

Put the temperature sensor at the suitable place near the Chip. Spread flux on the head of sensor for accurate temperature; spread flux around the chip to guarantee better welding.

6.3.3 Unsoldering/ soldering process:

6.3.3.1. Unsoldering process:

. Fix PCB board.

. Place the temperature sensor, spread the flux, set the infrared lamp to work temperature and then start the infrared lamp.

. Adjust the position of the infrared lamp to focus on the chip.

. Adjust the height of lamp to keep the height between 20-30mm. When the temperature is risen to your preset temperature or tin pan starts melting, please use vacuum suction or tweezers to remove chip, then switch off the infra red lamp.

□. Switch off the power after the machine completely cooled down.

6.3.3.2. To unsolder all kinds of needle-socket, such as CPU, GAP, users need to buy an infra preheat box.

General operation: First cover the parts of the PCB board which need no repair or which should avoid high temperature with aluminum foil and fix the PCB board well. Set the preheat temperature between 160-180□, put the temperature sensor near the component you wish to unsolder or to weld. Then start your preheat chassis for 3-5 minutes or even longer if required to make the component heat up evenly. In some special conditions, please use infra red lamp as auxiliaries to heat up the component quickly.

For lead-free devices, the temperature can be increased by 20-30□.

For two-faced board, please adopt lower preheating temperatures to preheat the PCB board, supplemented by infrared heat at the top.

6.3.3.3. Welding process:

The Welding process is nearly same as unsoldering process, but users should pay attention to clean the tin pan or pads and ball-planting and put the chip on the right place before heating.

6.4. Attentions in the process of unsoldering/welding

□. For some simple encapsulated chips, we recommend you put a small piece of

aluminum foil on the silicon position to prevent chips from overheating. The size of aluminum foil should be slightly bigger than the silicon; otherwise, it will influence the welding effect.

□. In the process of unsoldering/welding, all the plastic plug-in units within the range of the infrared lamp rays should be covered with aluminum foil to prevent deforming or damaging from high temperature.

□.Clean and test the PCB board after it has cooled down.

□. Please don't let the infrared lamp work for a long time without a PCB board. It is not allowed to let the infrared lamp shine on highly reflective components, because this will shorten the lamps service life.

6.5. Infrared lamp maintenance:

□.The preheating chassis and the infra-red lamp body, especially the lamp's inner high protection slide, should be cleaned from dust or condensate flux regularly with dehydrated alcohol to keep the infrared heat radiation unobstructed.

□.Put the handheld lamp back into the holder after use to let it completely cool down.

7. Caution

□. Don't switch off the power after use until the fan has cooled the lamp fully down; this will prolong the service life of the machine.

□. Keep the air intake of lamp's fan clean. Clean the infrared lamps inner high protection slide regularly with dehydrated alcohol.

□. Be careful when working with high temperatures.

□. Unplug the machine when not in use for a long time.

8. Warranty

We guarantee the machine quality for a year. The service of infrared lamp is designed for 1000 hours. We guarantee the infrared lamp is used for three months. We provide spare infrared lamps, but not free of charge. If you have any problems or questions about the machine, please enquiry online, we provide technical advisory.

Reminder: These machines are very heavy, between 8 to 15 kilograms and are not designed to be shipped on airplanes, but in containers that do not move. We are not the shipping company, the airplane crew, the customs agent or the carrier in your country and therefore take no responsibility for damage caused in transit.

Corollary: When our machines leave QC, they are tested, 100% new and in perfect condition. These machines consist of modules. Should you receive a faulty or damaged module, we will be happy to replace it. However, we will not replace the complete machine; this is not covered by our warranty.

Any of these machines are extremely sensitive to power stability. You need to use professional power source DC benches to plug in these machines. The IRDA heating could burn out or malfunction if you do not have the right power source DC bench machine. DGC is responsible to give proper guidance of the use and installation of the machine; if you don't follow these, it will void the warranty.

Statement

The images and screenshots in this product manual may vary slightly from the actual purchased product.

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